



Conference Summary

2023 Annual Meeting

June 25-28, 2023
Denver, Colorado, USA

For more details, join us at:

<http://www.isapp-sfa.com>

<https://twitter.com/ISAPPSFA>

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Annual report summary

The SFA's goal is to create an interactive network of graduate students and postdoctoral fellows across the globe working on probiotics, prebiotics, or related fields. They succeeded in this mission in Denver this year by assembling a diverse group of students and fellows from around the world including Argentina, Canada, China, Belgium, England, India, Ireland, Japan, Nigeria, Saudi Arabia, South Africa, the United States. A total of 27 participated in the program this year, together creating a dynamic and memorable meeting.

Students and fellows each shared the focus of their research in rapid, 2-minute introduction talks. In addition, the students and fellows presented their research with posters during the main ISAPP meeting. Three students were selected to present their work as an oral presentation during the SFA component of the conference, and another two performed featured oral presentations during the plenary session.

A major advance from previous years was the newly launched SFA+IAC Innovation Workshops which allowed students and fellows greater opportunity to interact with industry members. The SFA was also included in all other activities except for discussion groups, resulting in an overall enhanced potential for networking and knowledge exchange with the main meeting participants.

SFA Executive Team for the 2022-2023 period:

- President: Brendan Daisley (University of Guelph, Canada)
- Vice President: Daragh Hill (APC Microbiome, Ireland)
- Treasurer: Dieter Vandenheuvel (University of Antwerp, Belgium)
- Secretary: Cathy Lordan (Teagasc Research Centre, Ireland)
- Engagement: Sarah Ahannach (University of Antwerp, Belgium)
- Communications: Dave Hourigan (APC Microbiome, Ireland)
- Local Organizer: Breanna Metras (University of Illinois, USA)

More detailed summary of 2023 activities.

The SFA has had a flux of over 700 members since 2009 with 311 active members in the 2022–2023 period (60 renewal and 251 new registrations). For the 2023 conference, there were over 80 abstracts submitted from across four continents. A panel of seven judges from the SFA executive committee reviewed the submissions using a standardized set of grading criteria and the top abstracts were selected to attend. The SFA program is summarised below.

Welcome Event

The conference kicked off for the SFA on Sunday afternoon with a welcome reception dinner and networking event. Check-in at the Holiday Inn Express in downtown Denver was between 3-6pm. The SFA executive committee greeted incoming attendees and coordinated the assemblage of groups around 6pm before walking to the Wynkoop restaurant location. An official introduction was given before dinner and there was time reserved after dinner for networking activities in the pool table section of the venue. This allowed SFA members to get to know one another in a casual setting at the before the official meeting started the next day. This was beneficial to allow members to establish contacts and connections with each other ahead of the conference, and feedback from the event was very positive.

SFA+IAC Innovation Workshops

This was a new session in the ISAPP meeting program, organised by and for the Students and Fellows Association (SFA) in collaboration with member scientists of the Industry Advisory Committee (IAC). The session was designed to create a joint discussion space for members to explore themes of interest and areas of innovation in the field, as well as share perspectives and build relationships between industry and early career scientists. ISAPP Board of Directors (BoD) also participated in the workshops. A brief overview of the workshop focus areas are highlighted below:

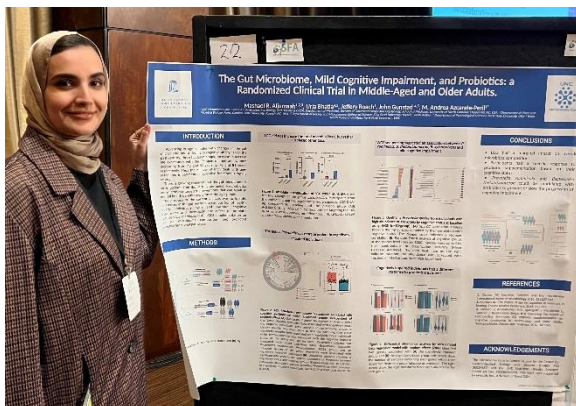
- *Workshop 1: Innovation in prebiotics: What's next?*
 - 25 attended (14 IAC, 7 SFA, and 4 BoD)
 - Chaired by Marla Cunningham (IAC)
- *Workshop 2: Latest advances in microbiome models and biotic screening techniques.*
 - 21 attended (10 IAC, 8 SFA, and 3 BoD)
 - Chaired by Brendan Daisley (SFA)
- *Workshop 3: Looking to the future for food and biotics.*
 - 23 attended (13 IAC, 6 SFA, and 4 BoD)
 - Chaired by Daragh Hill (SFA)
- *Workshop 4: Probiotic application beyond the gut: What have we learned and what's next?*
 - 19 attended (9 IAC, 7 SFA, and 3 BoD)
 - Chair by Mariya Petrova (IAC)

For further details and descriptions regarding the SFA+IAC Innovation Workshops, please see the ISAPP 2023 Meeting Guide available [here](#).

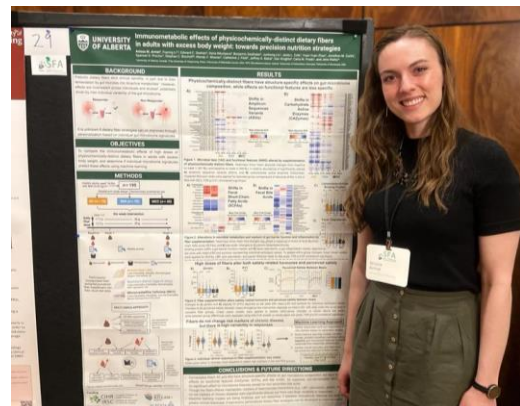
Poster session

The poster session went on throughout all days of the conference this year. There was engagement from ISAPP members and industry partners with regards to the SFA posters, and good discussions on the work being presented. The posters were judged by the SFA executive team members and ISAPP board members (Dan Merenstein, Gabriel Vinderola, Gregor Reid, Karen Scott, Kristin Verbeke, Maria Marco, Sarah Lebeer). Two poster prizes were awarded for best poster presentation, and these were awarded to Mashaal Aljumaah (North Carolina State University, USA) and Anissa Armet (University of Alberta, Canada).

"The gut microbiome, mild cognitive impairment, and probiotics: a randomized clinical trial in middle-aged and older adults"



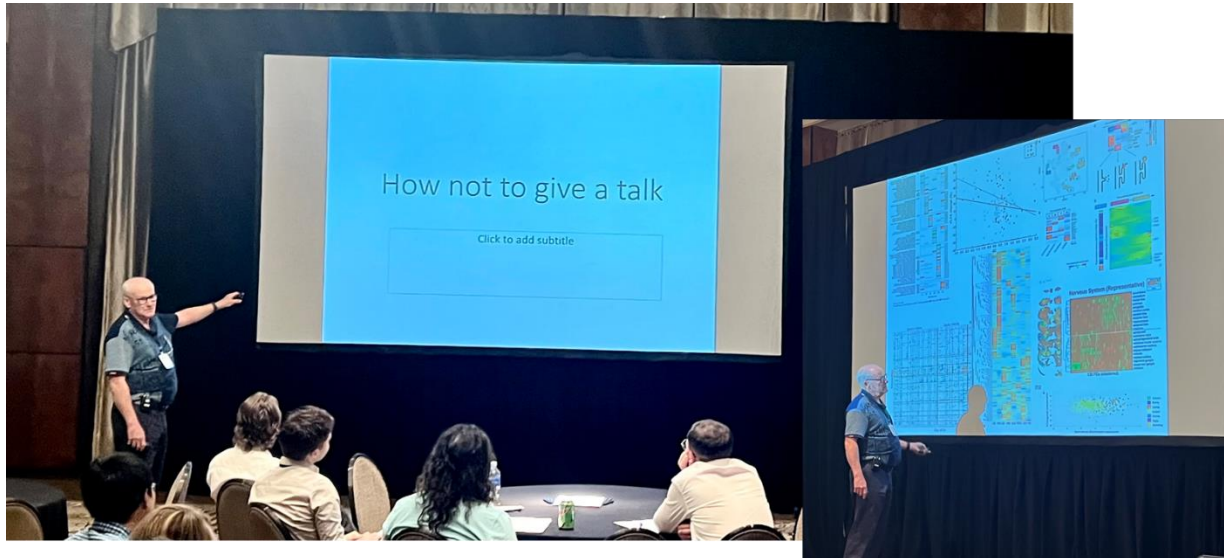
"Immunometabolic effects of physicochemically-distinct dietary fibers in adults with excess body weight: towards precision nutrition strategies"



Poster prize winners. Mashaal Aljumaah (North Carolina State University, USA; left) and Anissa Armet (University of Alberta, Canada; right).

SFA Keynote Presentation

The SFA-specific component on day 2 of the conference opened with a keynote presentation entitled “How not to give a talk” by Dr. Gregor Reid (Western University, Canada). Beyond this, there was also a section of the talk focused on career advice and taking the “[14 Steps to Relevance](#)”. There was much interaction with the audience throughout which led to a fascinating Q&A session. Overall, the students and fellows found the presentation highly engaging, and the talk set the tone for the sessions to follow.



Lightning talks

Each SFA member presented a lightning talk consisting of two slides; one personal background and one describing their research. This enabled members to get familiar with research themes of the current pool of attendees and to encourage members to come learn more about each other’s work during the poster session. A few highlights from this session are shown below.

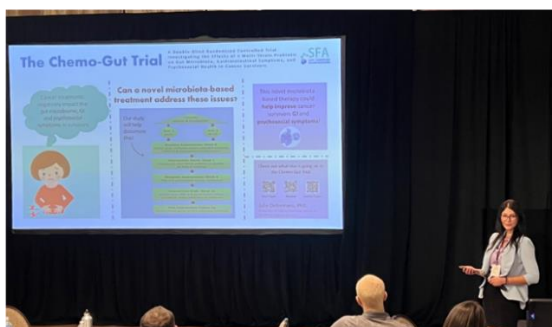
Pablo Cataldo (Cerela- Conicet, Argentina)



Patrica Sanz Morales (University of Reading, UK)



Lightning talks (1 slide personal background + 1 slide research aim)



Julie Deleemans (University of Calgary)



Qinnan Yang (University of Nebraska, USA)

Oral presentations

There were five SFA members selected to give oral presentations this year on day two of the conference. These were selected based on abstract submissions to have a range of topics from around the world. Three of the talks were performed during the SFA part of the conference in the morning, and two talks were highlighted during the main ISAPP plenary session in the afternoon. The presentations were of an extremely high standard and provoked an interesting Q&A session from conference attendees. The talk titles were:

1. "Orphan nisin immunity genes are widespread across the Bacillota" by Ivan Sugrue, University College Cork, Ireland.
2. "Identifying novel probiotic candidates to counter kidney stone disease" by Gerrit Stuivenberg, Western University, Canada.
3. "*Lactiplantibacillus plantarum* Plantaricin EF is a probiotic effector that protects barrier function in intestinal epithelial cells through an intracellular cation-linked mechanism" by Lei Wei, University of California, Davis, USA.
4. "Immunometabolic effects of physicochemically-distinct dietary fibers in adults with excess body weight: towards precision nutrition strategies" by Anissa Armet, University of Alberta, Canada.
5. "Identification of novel immunomodulatory components in *Lacticaseibacillus rhamnosus* GG" by Soyolmaa Jamiyanpurev, Shinshu University, Japan.

Harnessing the Power of Social Media

Kristina Campbell led a workshop with the SFA on how to utilise social media in your science career. This included tips on how to best communicate online, how to choose your platform, and how to engage. This session was greatly beneficial as Kristina highlighted how social media and engagement can be used as much or as little as you are comfortable with.

The group divided into smaller sub-groupings to discuss our current activities online, and our general thoughts on engagement. Then there was a larger conversation with the entire group about our thoughts and how we can best communicate moving forward. Additionally, there was discussion on the negative aspects of social media, such as the spreading of misinformation as well as the societal duty that scientists have in promoting correct information in their field of study.

Kristina kindly tweeted the twitter handles of participants as well as posted a group photo to promote exposure and the reach of student and fellow activities at the conference.



Niche Study Area Breakout Groups

There were three topics for discussion groups which members had the choice to sign up during the pre-conference networking event. The purpose of this session was to discuss the current field, where it has come from, and where we envisage the field moving in the coming years. These groups allowed for members from different labs to discuss methods they utilise and the pros/cons of the latest methods in the field. A summary of the discussions is outlined below.

Discussion Group #1 explored the use of probiotics and beneficial microbes for promoting health. There was strong emphasis on the importance of standardized clinical trials, even with some inherent variability. Discussion also touched on the need for balanced regulations regarding probiotics labelled as supplements and/or drugs (sometimes too lax, sometimes too strict), with the central goal being to prevent misinformation without stifling research. Personalized preventative medicine and the public perception of probiotics were also considered. The group debated the significance of strain specificity in different cases, the relevance of animal models, and host properties in probiotic research. The potential of using predictive modeling software in the field was highlighted, but it was noted that its success relies on data availability and transparency that are not always realistic in human studies. Overall, the group concluded that further research is warranted on many fronts and encouraged initiating this process.

Discussion Group #2 focused on the importance of prebiotics and modulating fiber intake for health. They highlighted the concerning lack of fiber consumption that is apparent in many countries, questioning the right amount needed and whether the type of fiber matters, as most government recommendations (e.g., recommended daily intake; RDI) don't specify fiber types. There was an emphasis on the fact that not all fibers offer the same benefits and stressed the need for more research in this area. In addition, the intriguing evolutionary linkages between taste preferences and prebiotic potential in foods were explored. The discussion also touched on the varying inter- and intra-individual responses to dietary fiber, making personalized dietary recommendations essential. Notably, regional differences in plant genotypes were discussed since this can impact the prebiotic potential of fiber sources in different populations. They raised concerns about the expansion of prebiotics into cosmetics and called for more scientific evidence to support such applications. Additionally, they advocated for the creation of a comprehensive fiber database to aid research and public health efforts with regard to recommendations on fiber intake. Overall, discussions in this group underscored the significance of understanding fiber intake and the potential for prebiotics in promoting health effectively, encouraging further research and evidence-based recommendations.

Discussion Group #3 focused on the human microbiota and related bioinformatic analysis. The participants explored many of the recent advancements in the field, including lower cost of reagents and increased accessibility to state-of-the-art analytical equipment. One of the many benefits identified was how it's becoming increasingly easier to obtain complete closing of genomes through long-read sequencing technologies. They emphasized the growing support of software and microbiota pipelines for proper data analysis. However, several areas still require improvement, such as limited annotation databases for various platforms like 16S, shotgun metagenomics, and metaproteomics. The group also discussed the need for validated methods and consensus approaches in many areas, including the best way to deplete host genomic DNA in ethical ways. Concerns were raised about the lack of a true 'gold standard' protocols for cell counting methods such as CFU counting, flow cytometry, and qPCR-based approaches. Additionally, they addressed how self-teaching of bioinformatics was common among wet lab scientists and the need for better support/guidance at the PI and university level, possibly through mini courses and recurring workshops. Overall, progress and challenges in human microbiota research were highlighted and there was strong agreement that proper training and better resources are needed for incoming students in the field of bioinformatic analysis.

Final Statement from the SFA Executive Committee

The SFA Executive Committee would like to thank the ISAPP Board of Directors as well as the Industry Advisory Committee of ISAPP for their continued contributions and support of the SFA program. A special thanks goes to all poster judges, to Dr. Marla Cunningham and Dr. Mariya Petrova for helping to launch and coordinate the SFA-IAC event this year, to Dr. Gregor Reid and Kristina Campbell for their guest presentations to the SFA group, and to Dr. Mary Ellen Sanders for all the guidance over the years while in the role of Executive Director of ISAPP – we wish you a happy retirement! Additionally, we thank all SFA members who joined us in Denver, Colorado, USA for the 2023 annual meeting. Your involvement was indispensable for making this year a success and everyone benefited from the sharing of your research. We hope you had a great time!

In summary, the 2023 SFA program facilitated great discussions within the SFA and the wider ISAPP community while also supporting the global networking of students and fellows studying in prebiotics, probiotics, postbiotics, and related fields. The feedback forms from participants were very positive while also highlighting certain areas of the program that could potentially be improved next year. Some photos from the SFA group and general conference activities are included below.



SFA group photo. Top row, left to right: Breanna Metra, Pablo Gabriel Cataldo, Anika Chicken, Qinnan Yang, Morgan Cade, Alexander Thorman, Kristina Campbell, Dieter Vandenheuvel, Daragh Hill, Gerrit Stuivenberg, Jungjae Park, Lei Wei, Cathy Lordan, Yunan Hu, Mashael Aljumaah, Soyolmaa Jamiyanpurev. Bottom row, left to right: Natalia Soledad Rios Colombo, Dave Hourigan, Ellen Murray, Lauren Walsh, Simone Renwick, Evan Jones, Ivan Sugrue, Patricia Sanz Morales, Brendan Daisley, Julie Deleemans, Anissa Armet.



Discussion Group #1 on Probiotics and concept of using beneficial microbes for health. Left to right: Anika Chicken, Ellen Murray, Julie Deleemans, Morgan Cade, Pablo Gabriel Cataldo, Natalia Soledad Rios Colombo, Lei Wei, Evan Jones.



Discussion Group #2 on Prebiotics and concept of modulating fiber intake for health. Left to right: Breanna Metras, Anissa Armet, Patricia Sanz Morales, Brendan Daisley, Gerrit Stuivenberg, Soyolmaa Jamiyanpurev, Qinnan Yang.



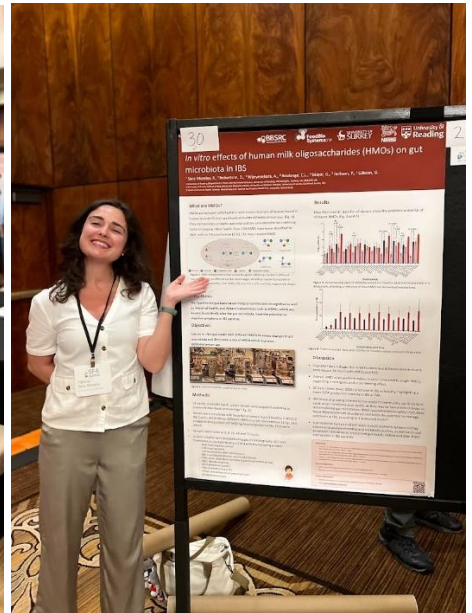
Discussion Group #3 on Human microbiota and related bioinformatic analysis. From left to right: Lauren Walsh, Ellen Murray, Cathy Lordan, Dave Hourigan, Ivan Sugrue, Mashaal Aljumaah, Jungjae Park, Yunan Hu, Alexander Thorman, Simone Renwick.



ISAPP Plenary Session on first day of conference.



ISAPP Welcome Reception.



SFA Poster Session on day 2 of conference.



Gala Social Event on Tuesday evening.



Day 3 of conference at the Brown Palace. Left to right: Lauren Walsh, Pablo Gabriel Cataldo, Natalia Soledad Rios Colombo, Pablo Gabriel Cataldo.



Day 3 closing remarks and summary presentation by SFA President, Brendan Daisley.



Organization committee for SFA+IAC Innovation Workshops. Left to right: Brendan Daisley, Mariya Petrova, Daragh Hill, Marla Cunningham.



Closing remarks. Longstanding SFA executive committee members Daragh Hill and Dieter Vandenheuvel high five over another successful year.